

Mississippi Emergency Medical Services

EMT-Basic Refresher Curriculum

Organizational Requirements

The purpose of a refresher course is to insure that all EMT's maintain a high level of professional skill. It should have a dual function of serving as a review and providing an opportunity for the EMT-Basic to receive instruction in the latest approved techniques. This curriculum is the minimum acceptable content that must be included in any Mississippi EMT-Basic Refresher program. This program should consist of a minimum of 24 classroom hours. For the purpose of standardization, the refresher training program has been divided into three, eight-hour Blocks. These guidelines represent the minimum content of each of the three Blocks.

This organizational plan was chosen to standardize the content of the refresher courses offered by the training facilities in the State and to allow for easier access to instruction by the participants. The Blocks may be offered independently of each other and may be taken in any order, from any combination of training sites, during the recertification period.

A complete refresher course must be conducted over a minimum of three days. Total class time per day should not exceed eight hours.

Time required for course preparation, pretests, independent study, research, and homework may not be applied to the minimum hour requirements of the program.

To create a better learning environment, participants in this course should not be subject to call or have other commitments that may interrupt the learning process.

Certification for CPR is not included in this course and must be obtained independently of this program.

Textbook

The purpose of this course is to ensure current knowledge for the EMT-Basic. It is highly recommended that each participant have access to an up to date EMT-Basic Refresher Textbook. Participants should pre-register for the course with sufficient time to receive confirmation of admission, a course syllabus, and to review the material covered in the Block.

Testing

For a participant to complete a Block, he or she must demonstrate proficiency over the knowledge and skills outlined in this refresher curriculum. The participant must show competency with a comprehensive written post-test and satisfactorily demonstrate the applicable practical skills for each Block. Skill sheets will be used for the practical evaluations and the participant must obtain a minimum score of 75% with no critical failures. Class time in excess of the eight hour per day maximum may be given, at the discretion of the training facility, for remediation of participants failing to complete initial competency testing.

If the participant is unsuccessful at either the written or the practical portions of a Block, the hosting institution may offer same day re-testing, or, may require the unsuccessful participant to return at a later time to re-test. The unsuccessful participant will have two (2) attempts, within 30 days from the

first attempt, to successfully complete the Block. If the participant remains unsuccessful after two (2) retest attempts (total of 3 attempts), the Block must be repeated. Each institution, at their discretion, may offer re-testing for a participant who attempted a Block at another institution, within the last 30 days. Each unsuccessful participant will receive the verification letter, attached in the Appendix, and must provide it upon re-testing. If the participant does not have the verification letter, he or she will not be allowed to re-test until verification is obtained.

Course size

This course emphasizes evaluation of student skills and discussion of field experiences as teaching methods. In addition, for certain skills, individual student practice is provided. In order that maximum student participation can be achieved, the class size necessarily must be small.

The class size for lecture-demonstration-discussion lessons must be small enough to allow interaction between students and instructor and to permit demonstrations to be easily viewed by all students. It is preferable that the class size for these sessions be limited to 20 students. (Instructor/student ratio: 1 to 20 or less)

Since the instructor must be able to observe and evaluate student performance, it is essential that skills practice be accomplished in small groups. The group size for skill practice sessions and testing should not exceed six students per instructor or assistant. (Instructor/student ratio: 1 to 6 or less)

Course Sponsor

The course must be sponsored by:

- A facility of the Mississippi Community College system that is actively involved in EMS training at or above the EMT-Basic level, **or**
- The University of Mississippi Medical Center, School of Health Related Professions, Department of Emergency Medical Technology.

Approval Process

The Mississippi State Department of Health, Office of Emergency Planning and Response (OEPR) must approve this course, prior to any instruction.

To request approval for a refresher course, the sponsor must submit:

1. A **Course Notification/Instructor Verification form** (Appendix).
2. A completed class schedule and content outline.
3. Copies of the primary instructor's certifications as a qualified instructor.
4. Copies of written and practical exam evaluation tools and answer keys.

If approved, a copy of the **Course Notification/Instructor Verification form** will be returned to the sponsoring facility. A Course Number will be assigned to the class for reference.

Course Completion

The Course Sponsor should issue certificates or letters of completion for the participants successfully completing each Block. This certificate or letter should indicate the completion date and the OEPR assigned Course Number.

The Course Sponsor must submit a final roster to the OEPR upon completion of the course.

The Course Sponsor must keep copies of all class schedules, content outlines, course rosters, quizzes, tests, grades, and practical skill evaluation sheets used in the Blocks, on file for a period of no less than two years after the completion date of the course. These should be available for review by OEPR, upon request.

Block 1.1

Preparatory Objectives

At the completion of this block, the student will be able to:

Identify the roles and responsibilities of the EMT-Basic

- Discuss the desired personal traits of the EMT-Basic
- Discuss the role of the EMT-Basic as a preceptor

Use physician medical direction for authorization to provide care

- Define medical direction and discuss the EMT-Basic's role in the process

Identify and manage hazardous situations

- Discuss the steps to approaching and managing scenes with physical hazards
 - Motor vehicle collisions
 - Hazardous materials
 - Fire or explosion
 - Confined spaces
 - Crime scenes and violence

Participate in the quality improvement process

- Define quality improvement and discuss the EMT-Basic's role in the process

Provide for safety of self, patient, and coworkers

- Discuss the importance of body substance isolation (BSI)
- Explain the rationale for serving as an advocate for the use of appropriate protection equipment
- Describe the steps the EMT-Basic should take for personal protection from airborne and bloodborne pathogens
- Discuss communicable diseases of concern to EMS providers and relate them to proper personal protective equipment

Use methods to reduce stress in self, a patient, bystanders, and coworkers

- Recognize the signs and symptoms of critical incident stress
- State possible steps that the EMT-Basic may take to help reduce/alleviate stress
- Define the emotional stages of the grieving process
- Discuss methods of dealing with dying patients and/or distraught family members

Use proper body mechanics when lifting and moving a patient

- Relate body mechanics associated with patient care and its impact on the EMT-Basic
- Explain the rationale for properly lifting and moving patients
- Working with a partner, move a simulated patient from the ground to a stretcher and properly position the patient on the stretcher
- Working with a partner, demonstrate the technique for moving a patient secured to a stretcher to the ambulance and loading the patient into the ambulance

Obtain consent for providing care

- Define consent and discuss the methods of obtaining consent
- Discuss the implications for the EMT-Basic in patient refusal of transport

- Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or state provisions regarding EMS application

Maintain standards of care and avoid negligence

- Discuss negligence and define the components that must be met to prove negligence
- Discuss other legal concerns of the EMT-Basic including but not limited to
 - Assault and battery
 - Abandonment
 - Abuse and neglect

Define anatomical terms relating to body parts and locations

- Anatomical position and point reference
 - Midline – medial and lateral
 - Mid-axillary line – anterior and posterior
 - Mid-clavicular and bilateral
 - Superior and inferior
 - Proximal and distal
- Body regions
 - Cranium
 - Thorax
 - Abdomen
 - Pelvis
 - Upper extremities
 - Lower extremities

Define major body systems

- Respiratory
 - Functions
 - Components
 - Mechanisms
- Cardiovascular
 - Functions
 - Components
 - Mechanisms
- Musculoskeletal
 - Muscles
 - Functions
 - Types
 - Components
 - Bones and joints
 - Functions
 - Types
 - Components
- Nervous
 - Functions
 - Divisions
 - Components

- Endocrine
 - Functions
 - Components
 - Secretions

Block 1.2

Trauma

Objectives

At the completion of this module, the student will be able to:

Define the different types of external bleeding

- State methods of emergency medical care of external bleeding
- Demonstrate care of the patient experiencing external bleeding

Provide care to a patient with shock (hypoperfusion)

- List the signs and symptoms of shock (hypoperfusion)
- State the steps in the emergency medical care of the patient with signs and symptoms of shock (hypoperfusion)
- Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion)
- Demonstrate care of the patient exhibiting signs and symptoms of shock (hypoperfusion)

Provide care to a patient with a soft tissue injury

- Define the types of closed soft tissue injuries
- Describe the emergency medical care of the patient with a closed soft tissue injury
- Demonstrate the steps in the care of closed soft tissue injuries
- Define the types of open soft tissue injuries
- Describe the emergency medical care of the patient with an open soft tissue injury
- Demonstrate the steps in the care of open soft tissue injuries

Provide care to a patient with a musculoskeletal injury

- Define the types of musculoskeletal injuries
- Describe the emergency medical care of the patient with a musculoskeletal injury
- Demonstrate the steps in the care of musculoskeletal injuries
- Explain the rationale for splinting at the scene versus load and go

Provide care to a patient with suspected head injury

- State the signs and symptoms of a head injury
- Describe the emergency medical care of the patient with a head injury
- Demonstrate the steps in the care of a patient with a head injury

Provide care to a patient with suspected spine injury

- State the signs and symptoms of a potential spine injury
- Describe how to stabilize the spine
- Demonstrate the steps in the care of a patient with a spine injury

Perform a rapid extrication of a trauma patient

- Describe the indications for the use of rapid extrication
- Explain the rationale for using rapid extrication approaches only when they will make the difference between life and death
- Demonstrate the procedure for rapid extrication

Block 2.1

Patient Assessment

Objectives

At the completion of this module, the student should be able to:

Assess scene safety

- Recognize hazards/potential hazards
- Describe common hazards found at the scene of a trauma and a medical patient
- Determine if the scene is safe to enter

Assess the need for additional resources at the scene

- Explain the reason for identifying the need for additional help or assistance

Assess mechanism of injury

- Discuss common mechanisms of injury

Assess nature of illness

- Discuss common natures of illness

Demonstrate the steps in performing a scene size-up

Perform an initial patient assessment and provide care based on initial assessment findings

- Summarize the reasons for forming a general impression of the patient
- Discuss methods of assessing altered mental status
- Discuss methods of assessing the airway in the adult, child, and infant patient
- Describe methods used for assessing if a patient is breathing
- Differentiate between a patient with adequate and inadequate breathing
- Distinguish between methods of assessing breathing in the adult, child, and infant patient
- Describe the methods used to obtain a pulse
- Describe normal and abnormal findings when assessing skin color, temperature, and condition
- Explain the reason for prioritizing a patient for care and transport

Demonstrate the steps in performing an initial assessment

Obtain a SAMPLE history

- Identify the components of a SAMPLE history

Perform a rapid trauma assessment and provide care based on assessment findings

- State the reasons for performing a rapid trauma assessment
- Recite examples and explain why patients should receive a rapid trauma assessment

Demonstrate the rapid trauma assessment that should be used to assess a patient based on mechanism of injury

Perform a history and physical examination focusing on the specific injury and provide care based on assessment findings

- Discuss the reason for performing a focused history and physical examination

Demonstrate the steps in performing a focused history and physical examination on a trauma patient

Perform a history and physical examination focusing on a specific medical condition and provide care based on assessment findings

- Differentiate between the history and physical examination that are performed for responsive patients with no known prior history and responsive patients with a known history
- Differentiate between the assessment that is performed for a patient who is unresponsive or has an altered mental status and other medical patients requiring assessment

Demonstrate the steps in performing a focused history and physical examination on a medical patient

Perform a detailed physical examination and provide care based on assessment findings

- State the areas of the body that are evaluated during the detailed physical examination
- Explain what additional care should be provided while performing the detailed physical examination

Demonstrate the skills involved in performing a detailed physical examination

Perform ongoing assessments and provide care based on assessment findings

- Discuss the reasons for repeating the initial assessment as part of the ongoing assessment
- Describe the components of the ongoing assessment

Demonstrate the skills involved in performing an ongoing assessment

Explain the value of performing each component of the prehospital patient assessment

Recognize and respect the feelings that patients might experience during assessment

Complete a prehospital care report

Apply the components of the essential patient information in a written report

Communicate with the patient, bystanders, other health care providers, and patient family members while providing patient care

- Discuss the communication skills that should be used to interact with the patient
 - Discuss common barriers to effective communication when providing patient care to geriatric patients
 - Discuss common barriers to effective communication when providing patient care to pediatric patients
 - Discuss methods of overcoming communication barriers when providing patient care to patients with hearing or speech impairments or patients that speak a foreign language
- Discuss the communication skills that should be used to interact with the family, bystanders, individuals from other agencies while providing patient care and hospital personnel, and the difference between skills used to interact with the patient and those used to interact with others

Provide a report to medical direction of assessment findings and emergency care given to the patient

- Explain the importance of effective communication of patient information

Explain the rationale for providing efficient and effective radio and written patient care reports

Block 2.2

Medical Emergencies

Objectives

At the completion of this module, the student will be able to:

Provide treatment for a patient in respiratory distress

- List the signs and symptoms of difficulty breathing
- Describe the emergency medical care of the patient with breathing difficulty
- Discuss different conditions that can lead to difficulty breathing
 - Discuss the general pathophysiology of conditions that can lead to difficulty breathing
 - Discuss treatment modalities specific to certain conditions that can lead to difficulty breathing
- Discuss the position of comfort for patients with difficulty breathing
- Recognize the need for medical direction to assist in the emergency medical care of the patient with difficulty breathing
- State the generic name, medication forms, dose, administration, action, indications, and contraindications for the prescribed inhaler

Provide care to a patient experiencing chest pain/discomfort

- Describe the emergency medical care of the patient experiencing chest pain/discomfort
- Discuss different conditions that can cause chest pain/discomfort
 - Discuss the general pathophysiology of conditions that can cause chest pain/discomfort
 - Discuss treatment modalities specific to certain conditions that can cause chest pain/discomfort
- Discuss the position of comfort for patients with various cardiac emergencies
- Recognize the need for medical direction to assist in the emergency medical care of the patient with chest pain/discomfort
- State the medication forms, dose, administration, action, indications, and contraindications for nitroglycerin

Discuss the need to decrease the anxiety level of patients experiencing difficulty breathing and/or chest pain/discomfort

Attempt to resuscitate a patient in cardiac arrest

- Discuss the circumstances which may result in inappropriate shocks from an AED
- Explain the considerations for interruption of CPR when using the AED
- List the steps in the operation of the AED
- Explain the role medical direction plays in the use of the AED
- Given a cardiac arrest scenario, demonstrate the use of the AED

Provide care to a patient with an altered mental status

- Discuss the physiology of insulin utilization in the process of glucose entering the cell
- Discuss the pathophysiology of diabetes mellitus
- State the steps in the emergency medical care of the patient taking diabetic medicine with an altered mental status and a history of diabetes
- Evaluate the need for medical direction in the emergency medical care of the diabetic patient
- Discuss the pathophysiology of a generalized seizure
- State the steps in the emergency medical care of the patient experiencing a seizure
- Discuss the pathophysiology of a hemorrhagic stroke and an occlusive stroke
- State the steps in the emergency medical care of the patient experiencing a stroke

Provide care of the patient experiencing an allergic reaction

- Recognize the patient experiencing an allergic reaction
- Describe the emergency medical care of the patient with an allergic reaction
- State the generic and trade names, medication forms, dose, administration, action, indications, and contraindications for the epinephrine auto-injector
- Evaluate the need for medical direction in the emergency medical care of the patient with an allergic reaction
- Demonstrate the use of the epinephrine auto-injector
- Differentiate between the general category of those patients having an allergic reaction and those patients having an allergic reaction and requiring immediate medical care, including immediate use of the epinephrine auto-injector

Provide care to a suspect poison/overdose patient

- Describe the steps in the emergency medical care for the patient with suspected poisoning
- Discuss the emergency medical care for the patient with possible overdose
- State the medication forms, dose, administration, action, indications, and contraindications for activated charcoal

Provide care to a patient experiencing a behavioral problem

- Discuss the characteristics of an individual's behavior which suggests that the patient is at risk for suicide
- Discuss the special considerations for assessing a patient with behavioral problems
- Discuss the general principles of an individual's behavior which suggests that he is at risk for violence
- Discuss methods to calm behavioral emergency patients

Defend the rationale for the EMT-Basic to carry and assist with medications

Recognize and respond to the feelings of the patient who may require interventions to be performed

Given medical scenarios, demonstrate the ability to properly assess the patient and demonstrate the ability to properly utilize the intervention to include inhaler, nitroglycerin, oral glucose, and activated charcoal

Block 3.1

Airway

Objectives

At the completion of this module, the student will be able to:

Recall and review the anatomy of the respiratory system

- Discuss the mechanism of inhalation and exhalation

Perform techniques to assure a patent airway

- Describe the steps in performing the head-tilt chin-lift
- Describe the steps in performing the jaw thrust
- Describe the techniques of suctioning
- Demonstrate the techniques of suctioning
- Describe how to measure and insert an oropharyngeal (oral) airway
- Describe how to measure and insert a nasopharyngeal (nasal) airway
- Demonstrate how to properly insert an oropharyngeal and nasopharyngeal airway

Provide ventilatory support for a patient

- Describe the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers
- Demonstrate the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask for one and two rescuers
- Describe the steps in artificially ventilating a patient with a flow restricted, oxygen-powered ventilation device
- Demonstrate artificial ventilation of a patient with a flow restricted, oxygen-powered ventilation device

Use oxygen delivery system components (nasal cannula, face mask, etc.)

- Identify a non-rebreather face mask and state the oxygen flow requirements needed for its use
- Identify a nasal cannula and state the flow requirements needed for its use
- Demonstrate the use of a non-rebreather face mask and a nasal cannula

Discuss the theory of pulse oximetry

Discuss the proper technique of determining oxygen saturation using a pulse oximeter

Explain the rationale for basic life support artificial ventilation and airway protection skills taking priority over most other life support skills

Explain the rationale for providing oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations

Block 3.2

Obstetrics, Infants, and Children Objectives

At the completion of this module, the student will be able to:

Identify and define the structures associated with the obstetric patient

- Uterus
- Vagina
- Fetus
- Placenta
- Umbilical cord
- Amniotic sac
- Perineum

State indications of an imminent delivery

Identify pre-delivery emergencies

- Excessive pre-birth bleeding
 - Placenta previa
 - Abruptio placentae
- Ectopic pregnancy
- Seizures in pregnancy
- Miscarriage

Differentiate the emergency medical care provided to a patient with pre-delivery emergencies from a normal delivery

State the steps in the pre-delivery preparation of the mother

Establish the relationship between body substance isolation and childbirth

State the steps to assist in the delivery

Discuss the steps in the delivery of the placenta

List the steps in the emergency medical care of the mother post-delivery

Summarize neonatal resuscitation procedures

- Discuss situations that could indicate a high-risk delivery
- Describe the approach to neonatal resuscitation when birth fluids are present in the airway
- Explain the significance of pulse rates in neonatal assessments
- Describe the APGAR scoring system and its use

Describe the procedures for abnormal deliveries

- Breech presentation
- Limb presentation
- Prolapsed cord
- Limb presentation

Differentiate the special considerations of meconium

Describe special considerations of a premature baby

Discuss the emergency medical care of a patient with a gynecological emergency

- Vaginal bleeding
- Trauma to the external genitalia
- Sexual assault

Identify the developmental characteristics for different age groups

- Infants
- Toddlers
- Pre-school
- School age
- Adolescent

Describe differences in anatomy and physiology of the infant, child, and adult patient

Describe ways in which the basic approach to assessment must be adapted for pediatric patients

- Determining mental status
- Determining perfusion status
- Determining breathing adequacy
- Determining airway patency

Indicate and discuss various causes of respiratory emergencies

Differentiate between respiratory distress and respiratory failure

List the steps in the management of foreign body airway obstruction

Summarize emergency medical care strategies for respiratory distress and respiratory failure

List common causes of shock (hypoperfusion) in infants and children

Identify the signs and symptoms of shock (hypoperfusion) in the infant and child patient

Describe the methods of determining end organ perfusion in the infant and child patient

Discuss the steps in the emergency medical care of a pediatric patient presenting with signs and symptoms of shock (hypoperfusion)

State the common causes of cardiac arrest in infants and children versus adults

Describe the steps in assessment and management of pediatric cardiac arrest

Discuss different assessment findings that indicate altered mental status in infants and children

List different causes of altered mental status in the pediatric patient

List the steps in the emergency medical care of a pediatric patient with an altered mental status

List common causes of seizures in infants and children

List the steps in the emergency medical care of a pediatric patient experiencing a seizure

Discuss the emotional impact of a seizure on the patient and family

List and discuss common toxic substances that are commonly involved pediatric poisoning emergencies

Differentiate the possible causes of poisonings between infants, children, and adolescents

List and discuss high-risk mechanisms of injury for pediatric patients

Discuss airway maintenance skills used for the pediatric trauma patient

Describe the correct method for spinal immobilization in an infant or small child

Describe the method for determining the body surface area involved in a burn to a pediatric patient

Define child abuse and child neglect

Discuss parental reactions that might suggest the possibility of child abuse or neglect

Discuss different historical findings that might suggest the possibility of child abuse or neglect

Discuss different physical findings that might suggest the possibility of child abuse or neglect

Discuss the EMT's medical and legal responsibilities in reporting suspected child abuse or neglect

Block 3.3

Current Trends

Biological / Chemical

Weapons

Objectives

At the completion of this module, the student will be able to:

Discuss current trends and changes in EMS that could potentially improve initial patient care, improve patient survivability, or improve long-term rehabilitation

Understand the importance of early recognition of a biological or chemical weapons attack

- Essential to ensure a prompt response
- Knowledge of local protocols/policies and procedures
- Knowledge of the local agencies protocols/policies and procedures for this type of response
- Protect yourself and other responders from primary or secondary exposure
- May require specific decontamination procedures
- Provide appropriate treatment
- Provide prophylactic medication and/or vaccines
- Self-evacuating casualties may seek treatment at clinics and emergency rooms
- Victims may utilize ambulance resources
- May be difficult to differentiate naturally occurring outbreaks from acts of terrorism

Be aware of high-priority agents:

- Ricin
- Nerve Agents
 - Sarin
 - Mustard
 - VX
- Radiation
- Anthrax (*Bacillus anthracis*)
 - Inhalational anthrax
 - Cutaneous anthrax
 - Gastrointestinal anthrax
- Plague (*Yersinia pestis*)
- Smallpox (variola major)
- Botulism (*Clostridium botulinum* toxin)
 - Botulinum toxin is the most poisonous substance known
 - Major bioweapon threat
 - An aerosolized or foodborne botulinum toxin weapon would cause acute illness
- Tularemia (*Francisella tularensis*)
- Viral Hemorrhagic Fever
 - Filoviruses (Ebola hemorrhagic fever, Marburg hemorrhagic fever)
 - Arenaviruses (Lassa fever, Argentine hemorrhagic fever)
 - Bunyaviruses
 - Flaviviruses
- Other unknown agents

Appendix

OEPR Forms

Skill Sheets

NOTICE OF UNSUCCESSFUL COMPLETION

TO: _____
FROM: _____
SUBJECT: UNSUCCESSFUL COMPLETION OF EMT-BASIC REFRESHER BLOCK
DATE: _____

This is to acknowledge that _____ unsuccessfully attempted EMT-Basic Refresher Block _____.

Retest required for:

_____ Written Version used: _____
_____ Practical Which Skill(s): _____

Score on Written Examination: _____

Reason for Failure of Skill(s): _____

Date and Location of First Retest: _____

Results: _____

Test Version: _____ By: _____

Date and Location of Second Retest: _____

Results: _____

Test Version: _____ By: _____